

## ABSTRACT

A process for producing chlorine comprising the step of oxidizing hydrogen chloride in a gas containing hydrogen chloride with a gas containing oxygen in the presence of a catalyst, wherein the oxidation of hydrogen chloride is carried out in at least two reaction zones each comprising a catalyst-packed layer, which are arranged in series, and a temperature in at least one of said reaction zones is controlled with a heat exchange system. According to this process, the stable activity of the catalyst is maintained and chlorine can be stably obtained at a high yield since the excessive hot spot in the catalyst-packed layer is suppressed and the catalyst-packed layer can be effectively used.

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